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B. C. HYDRO

GAS TRANSMISSION ENCROACHMENT PROGRAM
LAND USE STUDIES

ASSESSMENT OF PROPERTIES WITH DEVELOPMENT POTENTIAL

Properties Division

May 1984

H2274R

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NOTE: This is Volume 1 of a two-volume report. Volume 2 is a map atlas designed to accompany the text in this report. A summary map is included in this text to provide an overview of existing zoning and future development.

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1. SUMMARY

The objective of this study is to identify and assess properties which have potential for development and therefore could pose future encroachment problems on the existing B. C. Hydro gas transmission right of way in the Fraser Valley.

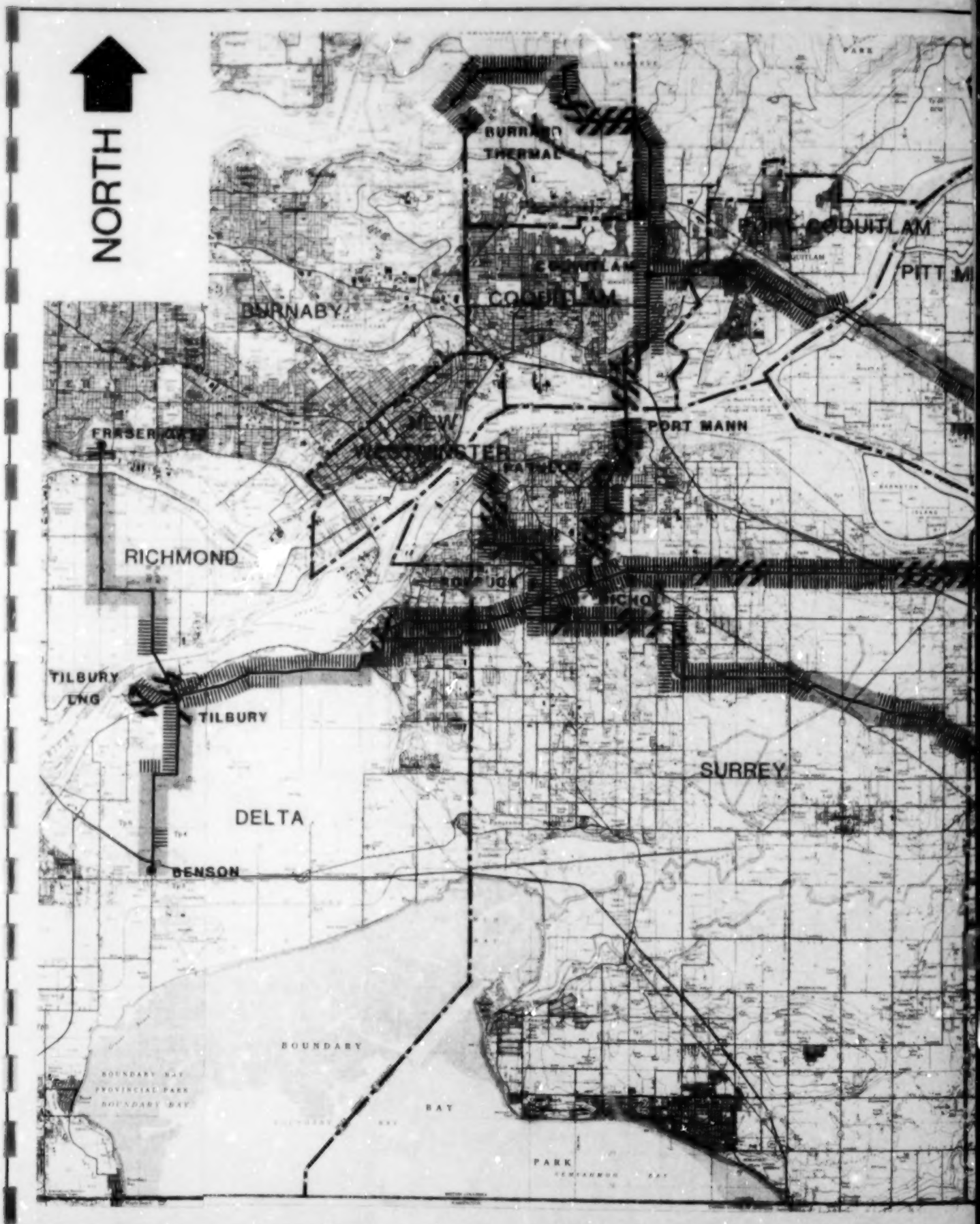
The research in this report is comprised of: a review of existing land use and future development trends adjacent to the B. C. Hydro gas transmission line; identification of properties with future development potential and assessment of timing of development; estimation of single family lots created by subdivision of developable properties; and interviews with municipal planning staff to assess the adequacy of local government processes related to right of way management.

The study shows that a total of 238 parcels, or 10% of the total number of properties in the network, exhibit potential to be developed to higher density. It is expected that 189 of these properties may be developed within the next 10 years. Once these lands are developed the problem of encroachments could be severe and management of the easements quite demanding.

Single family residential areas were identified by Properties staff as having the highest incidence of encroachment and approximately half of the parcels with development potential have this zoning designation. It is estimated that over 1000 residential lots could be created by new subdivisions along the right of way; of which over 70% could be developed within the next 10 years.

The Fort Langley - Nichol and Haney - Coquitlam sections were identified as having the highest potential for further development. More than 200 new residential lots could be created along both of these sections. Seven out of the total 17 sections have very limited potential for further residential development although other kinds of development (e.g. industrial) may occur.

Interviews with local government officials indicated that there is limited communication with B. C. Hydro regarding the approval of new land developments or subdivisions, when they affect B. C. Hydro easements. There appears to be opportunities for limited recreational use of B. C. Hydro rights of way in some of the municipalities, which could be one means of reducing encroachments.


NORTH
BURNABY
COQUITLAM
PORT COQUITLAM
PORT MANN
RICHMOND
TILBURY
LNG
TILBURY
SURREY
DELTA
BENSON
BOUNDARY
BAY
PARK

B.C. HYDRO LOWER MAINLAND GAS TRANSMISSION NETWORK

GENERALIZED LAND USE AND PROPERTIES WITH DEVELOPMENT POTENTIAL

LEGEND

- PIPELINE ROUTE
- MAJOR PIPELINE STATIONS
- PROPERTIES WITH DEVELOPMENT POTENTIAL BASED ON COMMUNITY PLANS AND ZONING
- AGRICULTURAL LAND RESERVES
- PROPERTIES WITH NO FURTHER DEVELOPMENT POTENTIAL (INCL. URBAN AND RURAL RESIDENTIAL, COMMERCIAL AND INDUSTRIAL)

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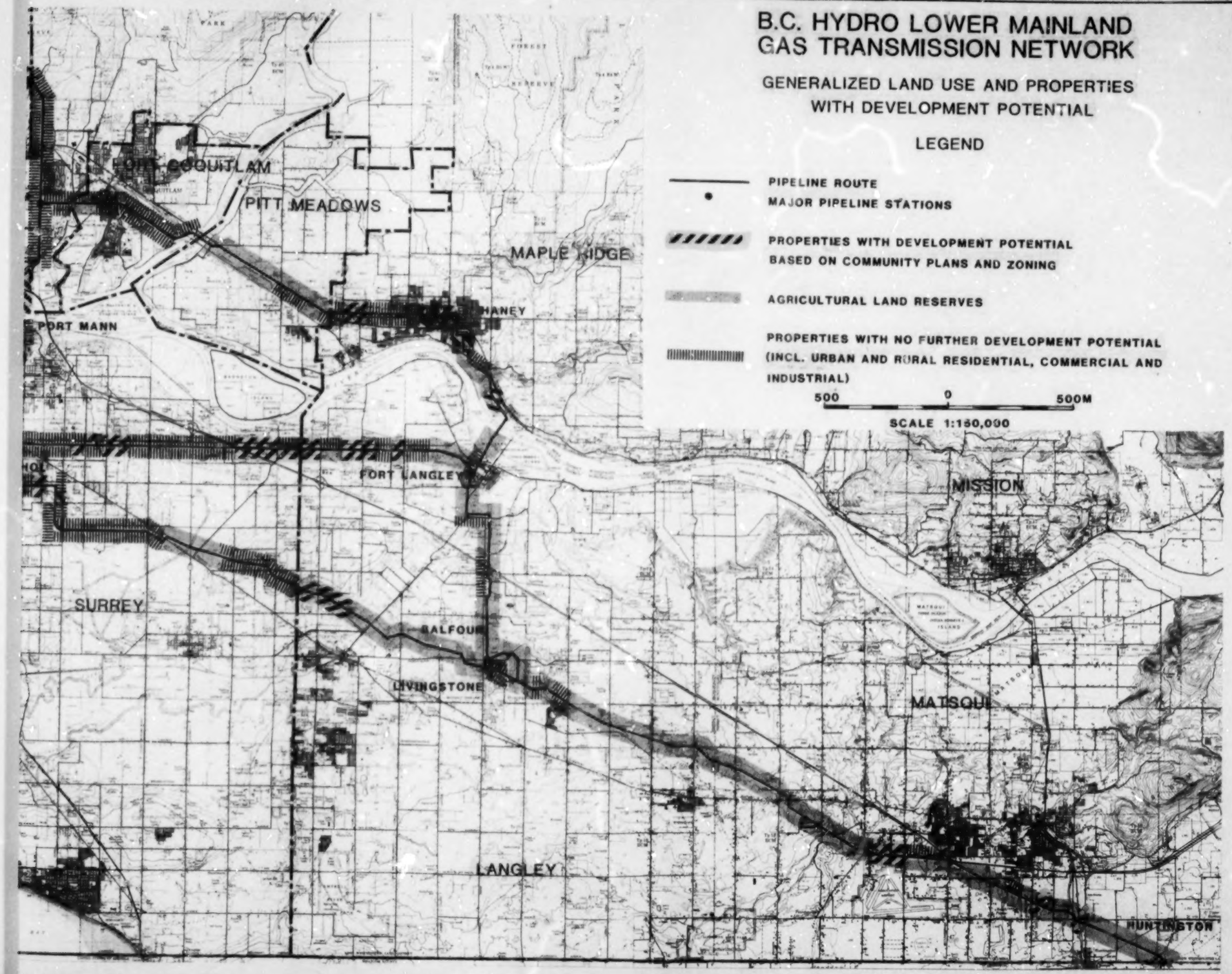

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2. INTRODUCTION

In 1983, B. C. Hydro Gas Operation issued an assignment to the Properties Division to investigate and report on existing encroachments on the gas pipeline system in the Fraser Valley; acquire any missing statutory rights; and, review existing agreements, applicable real estate law, the subdivision process and other companies' land use policies.

A first report was prepared by Properties Division which provided an inventory of encroachments (B. C. Hydro, August 1983). The study showed that along a 174 km long gas pipeline network, comprising more than 2300 parcels of land, a total of 1271 parcels are affected by one or more encroachments. The total number of encroachments is 2005, with severity varying from typical residential encroachments such as trees and fences, to industrial encroachments such as storage yards and buildings.

As a result of these studies it was realized that as urban development proceeds in the Fraser Valley new encroachments can be expected. It is the purpose of this study to identify and assess properties which could pose new encroachment problems for B. C. Hydro and to make recommendations to alleviate this recurring problem.

2.1 Methodology

The study builds upon the extensive "line list" data established for the Gas Transmission Line Encroachment Report prepared by Properties Division (B. C. Hydro, August 1983). The following steps were followed in the analysis:

(a) The gas transmission system was broken down into 17 sections for assembly of all relevant land use data. (Refer to overview map in the property atlas accompanying this report.)

(b) Identification of properties with future development potential based on the assessment of present land use, zoning, community plan designation and discussions with municipal planning agencies to determine prevailing development trends.

(c) Assessment of timing of future development in order to identify possible new encroachments.

(d) Estimation of number of single family lots created by subdivision of developable parcels.

The study is presented in this report together with a property atlas. There are a total of 38 maps including an overview map and 37 detailed maps.

2.2 Gas Pipeline Easement and Encroachments - A Perspective

Gas as a source of light and heat has been available in Victoria since 1860, and Vancouver and New Westminster since 1886. In 1905 and 1906, B. C. Electric took over the Victoria and Vancouver gas companies respectively (see B. C. Electric, 1925 and Keiller, 1932). The gas was manufactured locally from coal. An ambitious pipeline construction program was initiated in the 1950's to provide natural gas, discovered in the Peace River area, for industrial and residential heating in the Lower Mainland. By 1959, gas service was available to roughly 90% of residents in the Metropolitan Vancouver area and 50% in the Fraser Valley (B. C. Power, 1958). It was as a result of this program that the present gas transmission and distribution network was established.

In the Lower Mainland area, the continual demand for residential, commercial and industrial land has caused land prices to increase greatly over the years. Expensive land forces owners to put it to the maximum use. It is not surprising then, that use can spill over onto Hydro rights of way. Particularly vulnerable are pipelines in developed areas, as they have no visible features on the surface except for marker signs and survey pins.

This use of Hydro's rights of way is described as encroachment. An encroachment is defined as the use of the area within a statutory right of way or easement in contravention of the terms of said easement or right of way.

B. C. Hydro preserves its rights of way to ensure safety and integrity. To do this, unauthorized or conflicting uses of, or encroachment on the rights of way must be identified and prevented. However, implementation of such a policy has to consider reality which shows that certain public and private activities or improvements may not conflict with utility safety and could in fact improve the aesthetic or social value of the right of way.

Subsequent to the construction of a pipeline, a previously undeveloped area may become developed for urban residential use. Hydro is limited in its information on the subdivision of lands which have an easement. The result in some areas has been the creation of residential lots where a substantial portion of the back yard is taken up by the easement. Fences, gardens, trees, landscaping and building improvements reduce the effectiveness of maintaining a clean and

identifiable right of way. Another problem with gas pipeline easements in the Lower Mainland is the number of right of way agreements and their various restrictions which do not necessarily prevent encroachments (Fowler, 1983).

Finally, as discussed in the Properties Division Report (August 1983) land over which a right of way exist, remains the property of the owner in fee, subject to the loss of certain rights specified in the right of way agreement. The owner knows it is his property but may not be aware of the specific restrictions contained in the right of way agreement (particularly if he did not negotiate the agreement). As a result improvements are made which may conflict with Hydro's maintenance and operational requirements.

3. ASSESSMENT OF DEVELOPMENT TRENDS AND FUTURE ENCROACHMENTS

The purpose of this section is to: identify properties affected by gas transmission rights of way which have potential for future urban development; and to assess within what time frame this development is likely to occur.

3.1 Identification of Properties with Development Potential

The first step in the analysis involved the identification of properties with future development potential. Several factors, determining development potential of a specific property were considered, including:

- existing land use;
- existing zoning;
- proposed land use as designated in the official community plan;
- information on growth trends as received in discussion with municipal and regional planning agencies.

All properties designated in the community plan as urban residential, commercial and industrial can potentially be developed. Properties included in the Agricultural Land Reserve (ALR) and designated for urban development were

included also. The remaining types of designations such as rural residential, institutional, recreation and park were eliminated from further consideration as they have restricted development potential.

The results of this step in the analysis is shown in Table 3.1 which shows that 238 parcels (10% out of the total 2309 parcels) exhibit future development potential. With 55 parcels, the Fort Langley - Nichol section has the highest number of all 17 sections of the gas transmission network. This is followed by Haney - Coquitlam with 34, Livingstone - Roebuck with 31 and Roebuck - Pattullo with 22 parcels. Further details of this analysis is documented in Appendix A (Tables A1-17) which lists each individual parcel for each of the 17 sections, specifying the following:

- parcel number referring to line list as developed in earlier studies;
- municipal or regional jurisdiction;
- mapsheet number;
- size of parcel in hectares;
- actual land use;
- present zoning;
- official community plan designation;
- relevant comments.

TABLE 3.1

IDENTIFICATION OF PROPERTIES
WITH DEVELOPMENT POTENTIAL

Pipeline Section	Total Number of Properties in the Pipeline System	Properties With Development Potential Number
Huntingdon - Livingstone	218	15
Brown Road - Balfour Gate	17	0
Livingstone - Roebuck	346	31
Roebuck - Pattullo	166	22
Livingstone - Fort Langley	94	0
Fort Langley - Nichol Gate	249	55
Nichol - Roebuck	35	4
Roebuck - Tilbury	244	12
Brooke Road - Kennedy	100	0
Tilbury - Fraser Gate	52	2
Tilbury - Benson	19	3
Tilbury - LNG	33	8
Nichol - Port Mann	181	16
Port Mann - Coquitlam Gate	128	13
Coquitlam Gate - Burrard Thermal	85	4
Fort Langley - Haney	74	21
Haney - Coquitlam	268	34
TOTAL	2309 (100%)	238 (10.3%)

3.2 Assessment of Timing of Future Development

Future encroachments can be predicted by assessing the likelihood of development of a certain property. This was done by establishing a time horizon of development for each property as follows:

Criteria	Development
Property is zoned to a higher use than its present use (e.g. 2 ha vacant property, zoned for single family residential); services and utilities are available.	(S) Short Term 0 - 5 years
Property has an existing use with a factor limiting short term development (e.g. 2 ha hobby farm property, zoned for single family residential).	(M) Medium Term 6 - 10 years
Property has designated development potential but has severe limitations to development (e.g. designated as industrial in the ALR); lack of services.	(L) Long Term Over 10 years

Municipal officials in each of the 13 jurisdictions were contacted. Discussion was designed to confirm information on development activity in the area, and to learn about some of the local policies and practices as they relate to Hydro rights of way. A list of contacts is provided in Appendix B.

Vacant properties located in a growth area have the greatest potential for short term development. Properties which have an existing use are less likely to be developed to a high use as quickly. Clearly, these are subjective judgments, and without interviewing each property owner it is impossible to establish how and when their land may be developed. In some cases, local planning officials identified properties with existing uses that are proposed for imminent development.

Land with long term potential for development is subject to more severe constraints, and it is believed their development occurring within 10 years is unlikely.

The assessment of the time frame for development for each property is presented in Appendix A (Tables A1-17) for all 238 properties identified as having development potential. The analysis is discussed and summarized in the subsequent sections; it is divided into four parts based on the three time horizons and a summary.

3.3 Short Term Development Potential (0-5 years)

A total of 83 properties were identified as having potential to be developed within the next 5 years. These properties are generally vacant and zoned or designated for some form of urban development. Table 3.2 summarizes the results by proposed land use for each of the 17 sections of the pipeline system.

Referring to Table 3.2 on Page 14, the Fort Langley - Nichol Gate section has the highest number of parcels (25) exhibiting short term development potential. This section of the right of way is occupied by two 60 kV electric lines as well as the gas pipeline. The proposed Kelly Lake - Ingledow 500 kV line would parallel this route (see Mapsheets 13 - 19). The majority of the 25 parcels in this section are slated for industrial development which is being encouraged by the Districts of Surrey and Langley north of Freeway 401 near their joint municipal boundary. Also, new residential developments are underway in Langley's Walnut Grove neighbourhood east of the industrial park. New subdivisions are being proposed in Surrey, near Guildford, which would abut the easement.

TABLE 3.2

AREAS HAVING SHORT TERM DEVELOPMENT
POTENTIAL OF WITHIN 5 YEARS BY SECTION AND LAND USE

Pipeline Section	Single Family Residential		Multi-Family Residential		Industrial		Commercial		Total	
	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)
Huntingdon - Livingstone					4	6.9			4	6.9
Brown Road - Balfour Gate										
Livingstone - Roebuck	1	14.7							1	14.7
Roebuck - Pattullo	3	2.1			3	12.5			6	14.6
Livingstone - Fort Langley										
Fort Langley - Nichol Gate	4	13.2			21	32.1			25	45.3
Nichol - Roebuck										
Roebuck - Tilbury	11	41.4							11	41.4
Brooke Road - Kennedy										
Tilbury - Fraser Gate					2	22.1			2	22.1
Tilbury - Benson					3	2.3			3	2.3
Tilbury - LNG					4	22.4			4	22.4
Nichol - Port Mann	1	0.9							1	0.9
Port Mann - Coquitlam Gate					12	40.0			12	40.0
Coquitlam G. - Burrard T.	1	4.0							1	4.0
Fort Langley - Haney					3	10.3	4	1.2	7	11.5
Haney - Coquitlam	4	6.8	-	-	2	4.0	-	-	6	10.8
TOTAL	25	83.1	-	-	54	152.6	4	1.2	83	236.9

On the Roebuck - Tilbury section, negotiations are underway between the Municipality of Delta and Delsom Estates for the development of the last large block of developable land in North Delta (see Mapsheet 10). The Delsom Estates are crossed by several B. C. Hydro rights of way which have all been acquired by expropriation.

The three sections originating from Tilbury Gate Station all cross industrial land that is serviced and is being marketed for development (Mapsheet 11). The Port Mann - Coquitlam section has 12 parcels which have industrial development potential near the Port Mann Bridge. One Hydro owned property on the Coquitlam - Burrard section is for sale and will presumably be developed for residential purposes (no separate map available for this parcel - see Appendix A, Table A-15, Parcel 7).

In summary, most of the land that has short term development potential is industrial, although there is a considerable amount of residential land that could be developed within the next 5 years. The two areas facing new residential development are Delsom Estates in Delta and Walnut Grove in Langley.

3.4 Medium Term Development Potential (6-10 years)

Properties falling into this category are usually zoned for urban development, but there are limiting factors such as present use and zoning (see Table 3.3). These factors imply that development is less likely to occur within the next 5 years. It should be pointed out this assumption is valid as a general rule, but other factors such as short term fluctuations in market conditions can affect development potential.

Table 3.3 on Page 17 shows a total 106 parcels were identified as having potential to be developed within 6-10 years with 65 parcels to be developed for single family residential use.

As the case with short term development potential, Fort Langley - Nichol line has the largest number with 29 properties exhibiting medium term development potential. Four parcels with potential single residential development are in the Walnut Grove area of Langley; the 17 remaining parcels are stretched out south of 96th Avenue east of the Guildford neighbourhood in Surrey (see Appendix A, Table A-6 and Mapsheets 13 - 19).

TABLE 3.3

AREAS HAVING MEDIUM TERM DEVELOPMENT
POTENTIAL OF WITHIN 6-10 YEARS BY SECTION AND LAND USE

Pipeline Section	Single Family Residential		Multi-Family Residential		Industrial		Commercial		Total	
	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)
Huntingdon - Livingstone					1	0.4			1	0.4
Brown Road - Balfour Gate										
Livingstone - Roebuck	5	6.4							5	6.4
Roebuck - Pattullo	11	6.6			5	10.3			16	16.9
Livingstone - Fort Langley										
Fort Langley - Nichol Gate	21	44.7			8	19.6			29	60.3
Nichol - Roebuck	1	7.9							1	7.9
Roebuck - Tilbury	1	0.66							1	0.66
Brooke Road - Kennedy										
Tilbury - Fraser Gate										
Tilbury - Benson										
Tilbury - LNG					2	4.5			2	4.5
Nichol - Port Mann	5	3.2	4	4.7					9	7.9
Port Mann - Coquitlam Gate	1	0.45							1	0.45
Coquitlam G. - Burrard T.										
Fort Langley - Haney			13	40.7					12	3.7
Haney - Coquitlam	20	19.4	8	8.1	—	—			28	27.5
TOTAL	65	89.3	26	53.5	16	34.8			106	177.6

The second section which has a substantial amount (28 parcels) with development potential in 6-10 years is the Haney - Coquitlam Gate section in Maple Ridge (Mapsheets 31 - 34). The route traverses the western part of Maple Ridge north of Dewdney Trunk Road. It is an area that is rapidly being infilled to higher density residential development.

The 25 multi-family residential (townhouses and apartments) parcels will probably not create the same kind of encroachment problems as the single family residential.

In summary, most of the land with medium term development potential is single and multi-family residential. It should be noted that this land could be developed earlier, depending on market conditions.

3.5 Long Term Development Potential (Beyond 10 years)

As shown in Table 3.4 on Page 19 there are 49 properties that are presently designated for urban development in the official community plans, but because of lack of servicing or provincial land use regulation (e.g. ALR) potential for development is limited for at least 10 years.

TABLE 3.4

AREAS HAVING LONG TERM DEVELOPMENT
POTENTIAL OF GREATER THAN 10 YEARS BY SECTION AND LAND USE

Pipeline Section	Single Family Residential		Multi-Family Residential		Industrial		Commercial		Total	
	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)
Huntingdon - Livingstone	4	13.2			6	12.4			10	25.5
Brown Road - Balfour Gate										
Livingstone - Roebuck	7	13.4			18	23.9			25	37.3
Roebuck - Pattullo										
Livingstone - Fort Langley										
Fort Langley - Nichol Gate	1	2.3							1	2.3
Nichol - Roebuck	3	2.6							3	2.6
Roebuck - Tilbury										
Brooke Road - Kennedy										
Tilbury - Fraser Gate										
Tilbury - Benson										
Tilbury - LNG					2	11.9			2	11.9
Nichol - Port Mann	1	1.9	3	3.0					4	4.9
Port Mann - Coquitlam Gate										
Coquitlam G. - Burrard T.	3	133.1							3	133.1
Fort Langley - Haney	1	40.0							1	40.0
Haney - Coquitlam	—	—	-	—	—	—			—	—
TOTAL	20	206.5	3	3.0	26	48.2			49	257.7

Twenty-five parcels on the Livingstone - Roebuck section in Langley are designated for residential and industrial use, but are limited by lack of sewerage capacity. Township officials do not believe increased capacity will be provided for at least 10 years. (Walnut Grove is the current development priority.) (See Mapsheets 5 and 6).

The 10 parcels on the Huntingdon - Livingstone section in Abbotsford and Matsqui are all limited by the Agricultural Land Reserve (Mapsheets 2 and 4). Four of the parcels will be crossed by a proposed extension of Marshall Road to link up west to Peardonville Road. The pipeline would be affected by this extension (see Appendix A, Table A-1 and Mapsheet 4).

The three large parcels designated for residential development on the Coquitlam Gate - Burrard Thermal section are located on the north shore of Port Moody (Map 37). The provincial government recently approved a boundary extension of Port Moody north of the East - West Road which includes a segment of the pipeline easement. The land is all in public ownership (see Appendix A, Table A-15).

The 40-ha parcel on the Fort Langley - Haney Gate section is the McMillan Island Indian Reserve (no separate map has been prepared for this parcel). The Band could develop it, regardless of the provincial ALR designation. Local officials are not aware of any plans for development of this land. For this reason, and because of the lack of services, development potential was considered long term.

Eight of the nine Hydro properties were considered to have long term development potential.

In summary, properties having long term development potential are either residential or industrial. The factors limiting development are significant.

3.6 Summary of the Development Potential of Properties on the Gas Transmission Network

Summary Table 3.5 shows that 189 of the 238 properties identified could be developed within the next 10 years with the majority being single family residential. It is the single family residential subdivisions established subsequent to the construction of the gas pipeline that have raised the greatest concerns about encroachments. The 90 properties cover 172 ha. Once subdivision occurs the encroachment problem will multiply considerably.

TABLE 3.5

SUMMARY OF DEVELOPMENT POTENTIAL OF
PROPERTIES ON THE B. C. HYDRO GAS TRANSMISSION NETWORK

Time Horizon	Single Family Residential		Multi-Family Residential		Industrial		Commercial		Total	
	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)	Parcels	Area (ha)
0 - 5 years	25	83.1			54	152.6	4	1.2	83	236.9
6 - 10 years	65	89.3	25	53.5	16	34.8			106	177.6
> 10 years	20	206.5	3	3.0	26	48.2	-	-	49	257.7
TOTAL	110	378.9	30	56.5	96	235.6	4	1.2	238	672.2

4. SINGLE FAMILY RESIDENTIAL DEVELOPMENT ADJACENT TO GAS TRANSMISSION RIGHTS OF WAY

B. C. Hydro studies have shown that single family residential properties have the highest incidence for encroachments due to the individual owner's desire to fully use his land and maintain privacy.

Therefore it is the purpose of this section to examine more closely land designated for future single family residential development. An estimate is made of the number of residential lots that could be created by subdividing undeveloped parcels identified in Section 3.

The method of calculation is preliminary, because the layout of the actual subdivision is unknown until an application to a municipality is made. It was assumed undeveloped parcels could be subdivided on the average into 15 m (50 foot) frontage lots. The easement across each parcel was examined to determine whether lots could be subdivided on either one or both sides of the right of way.

As shown in Table 4.1, it is estimated that in excess of 1000 new single family residential lots could be created adjacent to existing gas transmission rights of way; 732 (or 68%) of these lots could be created within the next 10 years.

In the next 5 years, Roebuck - Tilbury (Delsom Estates); Livingstone - Roebuck; Haney - Coquitlam and Ft. Langley - Nichol can expect significant subdivision activity. Haney - Coquitlam and Ft. Langley - Nichol have potential for significant amounts of residential development in the medium term. Most of the development along Haney - Coquitlam will be in Maple Ridge. The Ft. Langley - Nichol line will have substantial residential in-fill in both the Walnut Grove area of Langley and in the area east of Guildford in Surrey. The Port Moody and Anmore - Ioco areas along the Coquitlam - Burrard section are designated for residential development in the long term.

Overall Haney - Coquitlam (217 lots), Ft. Langley - Nichol (203 lots), Coquitlam - Burrard (187 lots) and Livingstone - Roebuck (164 lots) are the areas where most new residential development is likely. It is in these areas that Hydro's attention should be directed in attempting to minimize encroachment problems.

TABLE 4.1

SUMMARY OF POTENTIAL SINGLE FAMILY RESIDENTIAL DEVELOPMENT ALONG EXISTING GAS TRANSMISSION RIGHTS OF WAY

	Short Term (0 - 5 years)[1]		Medium Term (6 - 10 years)		Long Term (over 10 years)		Total	
Section	No. of Pcls Designated Residential	No. of Potential Lots Subdivided	No. of Pcls Designated Residential	No. of Potential Lots Subdivided	No. of Pcls Designated Residential	No. of Potential Lots Subdivided	No. of Pcls Designated Residential	No. of Potential Lots Subdivided
H - L		0		0	4	27	4	27
B - B		0		0		0	0	0
L - R	1	44	5	59	7	61	13	164
R - P	3	9	11	53		0	14	62
L - F		0		0		0	0	0
F - N	4	34	21	162	1	7	26	203
N - R		0	1	6	3	0	4	6
R - T	11	90	1	5		0	12	95
B - K		0		0		0	0	0
T - F		0		0		0	0	0
T - B		0		0		0	0	0
T - L		0		0		0	0	0
N - P	1	2	5	26	1	38	7	66
P - C		0	1	2		0	1	2
C - B	1	23		0	3	164	4	187
F - H		0		0	1	50	1	50
H - C	4	36	20	181		0	24	217
TOTAL		238		494		347	110	1079
		(22%)		(46%)		(32%)		(100%)

NOTES:

1 Number of parcels designated residential were estimated in Section 3 and is shown on Tables 3.2, 3.3 and 3.4.

Number of potential lots subdivided is a preliminary estimate of number of lots created assuming 15 m (50 foot) frontage along the right of way (see Section 4, Page 23 for details).

H2685R

5. THE RIGHT OF WAY AND LOCAL GOVERNMENT

This section evaluates property development procedures required by local and regional governments and their implications for effective management of rights of ways. Initially the section provides a breakdown of all properties and their development potential by municipality in order to identify municipalities where problems could be most significant. Subsequently municipalities are analyzed with respect to their referral of development applications along rights of way to B. C. Hydro and their policies regarding the multiple use of rights of way.

5.1 The Potential for Development

There are nine municipalities, three cities and one regional district electoral area crossed by Hydro's gas pipeline right of way.

Table 4.2 shows that Surrey contains 40% or 933 parcels of a total of 2309 parcels along the pipeline system. Consequently, the largest number of parcels with development potential (88 or 37%) are also located in Surrey. Slightly more that half of these properties have potential for single family residential development.

TABLE 4.2

LOWER MAINLAND GAS TRANSMISSION NETWORK
SUMMARY OF LAND USE DATA BY SECTION AND MUNICIPALITY

Municipality	Section	Length (km)	Total Number of Parcels	Parcels With Development Potential: Single Family	Multi-Family	Industrial	Commercial	Totals	Hydro Owned Properties With Development Potential
Abbotsford	H-L	5.41	104	4	0	3	0	7	0
Coquitlam	P-C	5.04	122	1	0	12	0	13	0
	C-B	2.58	63	1	0	0	0	1	1
	H-C	1.91	16	0	0	0	0	0	0
Coquitlam (Total)		9.53	201	2	0	12	0	14	1
Delta	T-F	1.49	9	0	0	2	0	2	0
	R-T	10.21	192	12	0	0	0	12	0
	B-K	2.53	74	0	0	0	0	0	0
	T-B	5.85	19	0	0	3	0	3	0
	T-L	1.81	33	0	0	8	0	8	0
Delta (Total)		21.89	327	12	0	13	0	25	0
GVRD (Anmore - Ioco)	C-B	5.73	20	0	0	0	0	0	0
Langley	F-H	2.04	20	1 - IR - potential use not specified				1	0
	H-L	9.58	36	0	0	0	0	0	0
	F-N	6.60	54	8	0	7	0	15	1
	L-F	8.65	94	0	0	0	0	0	0
	L-R	8.25	74	7	0	18	0	25	0
	B-B	1.90	17	0	0	0	0	0	0
Langley (Total)		37.02	295	16	0	25	0	41	1
Maple Ridge	F-H	4.80	54	0	13	3	4	20	0
	H-C	6.47	196	24	8	0	0	32	0
Maple Ridge (Total)		11.27	250	24	21	3	4	52	0
Matsqui	H-L	12.96	78	0	0	8	0	8	0
Pitt Meadows	H-C	5.40	14	0	0	1	0	1	0
Port Coquitlam	H-C	5.44	42	0	0	1	0	1	0
Port Moody	C-B	1.71	2	3	0	0	0	3	0
Richmond	T-F	7.68	41	0	0	0	0	0	0
Surrey	N-P	5.09	181	7	7	0	0	14	4
	P-C	0.76	6	0	0	0	0	0	0
	R-T	2.32	52	0	0	0	0	0	0
	B-K	1.28	26	0	0	0	0	0	0
	F-N	12.10	195	18	0	22	0	40	0
	L-R	16.86	272	6	0	0	0	6	0
	R-P	5.50	166	14	0	8	0	22	0
	N-R	1.50	35	4	0	0	0	4	3
Surrey (Total)		45.41	933	49	9	30	0	88	7
Vancouver	T-F	0.23	2	0	0	0	0	0	0
TOTAL		168.07	2,309	111	27	96	4	238	9

EXPLANATORY NOTES

1. Parcels were counted from Computer Listing dated 11 August 1983: "Transmission Line Right of Way Information, Contents of Master File Sorted by Parcel Number" and segregated by municipality.

2. Multiple ownerships of single parcels were deducted from the line list.

3. All Strata title owners are included.

4. Double counting of section termini was avoided where noted in the printout.

With 51 parcels Maple Ridge has the second largest number of properties with development potential. The closeness of the pipeline to the downtown area of Haney, would seem to account for the high number of developable properties. The pipeline also crosses an area outside of the core that is proposed for urban development in the Official Community Plan.

Langley has 41 parcels with development potential. The Fort Langley - Nichol section is in an area being encouraged by Langley for residential and industrial development.

Delta has 25 parcels with development potential. The 12 residential properties on Roebuck - Tilbury are being planned for development now.

Only Anmore - Ioco, Richmond and Vancouver have no development potential. According to the Official Settlement Plan for the Anmore - Ioco area no urban development for the next 10 years is anticipated in the vicinity of the pipeline. All the properties in Richmond unless they are developed, are in the Agricultural Land Reserve. The ALR is considered a major constraint to future development. The two properties on the Tilbury - Fraser section in Vancouver are developed.

In summary, Surrey, Maple Ridge, Langley and Delta are the municipalities with the highest potential for development within the next 10 years.

5.2 Referral of Development Applications to B. C. Hydro - Present Municipal and Regional District Policies

Officials were contacted in all 13 jurisdictions to learn of their policies regarding referral of development applications affecting B. C. Hydro rights of way (see Table 4.3).

(a) The first question was whether rezoning applications affecting utility rights of way were referred to B. C. Hydro for comment. Four of the 13 local governments answered in the affirmative. Matsqui, Coquitlam and the GVRD (Anmore - Ioco) write to the respective District Operations offices of Hydro to ask for comments; Port Moody requires the developer to obtain Hydro's approval. The remaining nine municipal agencies do not contact Hydro. However, Hydro will be made aware in certain cases.

TABLE 4.3

MUNICIPAL POLICIES REGARDING USE OF B. C. HYDRO RIGHTS OF WAY

	Refer Rezoning Applications to B. C. Hydro	Refer Subdivision Applications to B. C. Hydro	Policy on Public Use or Development of Rights of Way	Comments
Abbotsford	No	No	No	They will refer to B. C. Hydro if requested.
Coquitlam	Yes on R/W only	Yes for all subdivisions	No	Policy is to follow B. C. Hydro recommendations. Referrals go to district office.
Delta	No	No	No	Refer to Hydro when circumstances require.
GVRD (Anmore)	Yes	Yes (by Ministry of Highways)	No	Try to discourage unauthorized uses (e.g. trail bikes, ATV's). Highways refers to Head Office.
Langley	No	No	Part	Practice is site-specific, e.g. Walnut Grove.
Maple Ridge	No	No	No	Refer to Hydro when circumstances require.
Matsqui	Yes	Yes	No	Policy is to follow recommendations of B. C. Hydro. Referrals go to district office.
Pitt Meadows	No	No	No	Would refer if B. C. Hydro requested.
Port Coquitlam	No	No	Yes	Encourage recreation use, equestrian and hiking trails.
Port Moody	Yes	Yes	No	Developers required to demonstrate Hydro has no objections.
Richmond	No	Yes for major subdivisions	No	Referrals go to district office.
Surrey	No	No	Yes	Encourage development of a green space network.
Vancouver	No	No	Part	Specific policy to be applied on ALRT line.

Section 720(3) of the Municipal Act requires that a municipality provide notice of a hearing on a proposed amendment to the zoning bylaw to the owners and occupiers of all real property within the area. The B. C. Assessment rolls are usually the source for their mailing lists to neighbouring properties. An easement is not shown on the assessment roll and in that case Hydro would not be contacted. Therefore Hydro will only be notified if rights of way are held in fee simple which usually is not the case. Although Hydro is occasionally notified on these matters, it seems to depend largely on the staff at the municipal halls. There is no consistent practice of referrals of rezoning in most cases. As Hydro has an interest in the real property it could be argued that it should be contacted on all rezoning applications that could affect its interests.

(b) The second question was "Does the municipality refer subdivision applications to B. C. Hydro for comment"? The same four jurisdictions who referred zoning changes also refer subdivision applications for comment. Because the Anmore - Ioco area is not incorporated, the approving officer for subdivisions is the Regional

Ministry of Highways office in New Westminster. In addition, Richmond refers only "major" subdivisions for comment. "Major" subdivision was defined as a development requiring new roads and possibly upgrading of services.

There is no requirement for a municipality to advise neighbouring property owners of a subdivision application. The reason referrals to Hydro do occur is to identify possible electrical operations concerns. It is interesting to note that 14 of the 16 utilities interviewed in a recent B. C. Hydro draft report had provision for some form of consultation on subdivision applications (B. C. Hydro, October 1983).

5.3. Policies Regarding the Multiple Use of Rights of Way

Multiple use of rights of way is an accepted practice by most utilities in North America. (See for example, Bagge, 1969; Crombie, 1981; Koske, 1976 and Marlett, 1978.) One point made by each of the authors is that by allowing certain activities to take place on the right of way, the problem of unauthorized activities is reduced. B. C. Hydro, in 1972 wrote to municipalities and regional districts stating that it favoured multiple uses of rights of way that

were compatible with the safe operation of the electric or gas systems. One product of this policy was the preparation of a report by the District of West Vancouver which recommended activities which would be compatible with the right of way (West Vancouver, 1972). In fact, B. C. Hydro rights of way are used for a variety of uses.

A recent article in Right of Way describes how Puget Sound Power and Light Co. participated with local governments and potential user groups in the planning and development of a multi-use recreational trail utilizing a fee owned electric transmission right of way (Donner, October 1983). Through the use of various public funds this has been developed into a successful trail system in the Seattle area.

As part of the interviews discussed in Section 4.2, municipalities were asked if they had any policies encouraging the use or development of rights of way for public use.

Two municipalities encourage the public use of right of way. Surrey has probably the most active program. One method they have used is to require dedication of an easement that is part of a subdivision for park purposes. The municipality hopes to eventually develop a network of linear corridors linked by various rights of way. Also a bicycle path project is in the proposal stage which would use existing rights of way.

Langley has no overall policy encouraging the establishment of linear recreational corridors. However, it has required dedication of right of way in the Walnut Grove area which could develop into a recreation corridor.

The GVRD Official Regional Plan has policies encouraging the development of rights of way for secondary uses (e.g. recreation). However, the Anmore - Ioco Settlement Plan makes no provision for such possibilities.

The planner for Maple Ridge had several reasons why secondary uses such as recreation were not practical in that community:

- the cost of maintenance;
- the right of way is already fragmented by developed areas;
- the priority is to develop existing recreation lands.

In summary, while the concept of multiple use of rights of way is well understood; and there are examples of its application; few of the municipalities interviewed expressed interest in its application.

6. RECOMMENDATIONS

6.1 The Right of Way and Future Land Use Developments

The following recommendations can alleviate the problem of encroachments upon existing and future developments adjacent to pipelines.

(a) Property owners must continue to be made aware of the hazards the pipeline can pose if abused, and what rights they have to use the land.

(b) Constant monitoring must continue to be maintained to ensure encroachments are identified early, and the appropriate action is taken.

(c) Certain "historical" rights of way agreements do not provide the same degree of protection of Hydro's interests as more recent agreements. In areas where urban development is designated, agreements should be reviewed to ensure current issues and concerns are addressed. For example, it may be more advantageous for Hydro to renegotiate an agreement with one property owner to more fully protect our interests, than to have to deal with a number of new owners once the property has been subdivided.

(d) Further studies should be undertaken to assess the practicality of alternative approaches to acquiring rights of way in areas designated for urban development including acquisition in fee simple, or requiring set back requirements from the right of way. The additional costs involved would have to be outweighed by the reduction of encroachments.

(e) Where practicable on new projects, common rights of way corridors (including other utilities) should be established.

6.2 The Right of Way and Local Government

(a) Increased communication between B. C. Hydro and local government is required to ensure development approving officers are aware of the effects of easements on subdivided residential lots.

(b) Applications to local government for rezoning or subdivision of lands which include Hydro rights of way should include a referral to B. C. Hydro Properties Division for comment. It is recommended negotiations be undertaken with selected municipalities to establish a referral system.

(c) Hydro's interests on private land should be included in the B. C. Assessment rolls. It is recommended a field be established on the Assessment Authority data base to identify B. C. Hydro's rights. By "flagging" Hydro's interests, municipalities would be better able to note when Hydro should be advised of rezoning and subdivision applications.

6.3 Multiple Use of Rights of Way

(a) Where feasible, Hydro should encourage public use of rights of way for nonconflicting purposes. The following steps should be taken to encourage this process:

(i) Rights of way owned in fee simple in developing urban areas have excellent potential for linear recreation corridors. Hydro could allow an interested municipality to use the right of way, e.g. in exchange for other considerations.

(ii) Existing rights of way by easement require negotiation by the municipality with each property owner for the right to use the property for recreation use. Hydro should, where private rights are not interfered with, encourage public use.

(iii) New rights of way by easement could include multi-use agreements (i.e. for recreation) while the easement is being created, as long as they do not unduly interfere with private rights.

The benefits to Hydro would be an increased recognition and appreciation of Hydro's contributions to the community; public use of rights of way will discourage private encroachments. Planning of multiple use of rights of way should be carefully coordinated with each municipality to complement community planning.

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APPENDIX A

Inventory of Properties
Identified Having Potential
For Urban Development

APPENDIX A

Gas Transmission Line Network

Index to Inventory of Properties Identified Having Potential for Urban Development.

	Section	Abbreviation	Table
1.	Huntingdon - Livingstone	(H-L)	A-1
2.	Brown Road - Balfour Gate	(B-B)	A-2
3.	Livingstone - Roebuck	(L-R)	A-3
4.	Roebuck - Pattullo Gate	(R-P)	A-4
5.	Livingstone - Fort Langley	(L-F)	A-5
6.	Fort Langley - Nichol	(F-N)	A-6
7.	Nichol - Roebuck	(N-R)	A-7
8.	Roebuck - Tilbury	(R-T)	A-8
9.	Brooke Road - Kennedy Road	(B-K)	A-9
10.	Tilbury - Fraser Gate	(T-F)	A-10
11.	Tilbury - Benson	(T-B)	A-11
12.	Tilbury - LNG Plant	(T-L)	A-12
13.	Nichol - Port Mann	(N-P)	A-13
14.	Port Mann - Coquitlam	(P-C)	A-14
15.	Coquitlam - Burrard Thermal	(C-B)	A-15
16.	Fort Langley - Haney	(F-H)	A-16
17.	Haney - Coquitlam	(H-C)	A-17

TABLE A-1

GAS TRANSMISSION LAND USE ANALYSIS

1. SECTION: Huntingdon - Livingstone
FILE: 472-1002.0(4)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
19	Abbotsford	1	2.0	Farm	M-2	Industrial		S
23	Abbotsford	1	1.2	Vacant	M-2	Industrial		S
24	Abbotsford	1	1.7	Vacant	M-2	Industrial		S
32	Abbotsford	2	4.19	Farm	A-2	Urban Res.	In ALR	L
33	Abbotsford	2	2.01	Res.	A-2	Urban	In ALR	L
34	Abbotsford	2	2.5	Farm	A-2	Urban	In ALR	L
35	Abbotsford	2	4.51	Farm	A-2	Urban	In ALR	L
61	Matsqui	3	2.0	Vacant	M-2	Industrial		S
62A	Matsqui	3	0.4	Res.	M-2	Industrial		M
71	Matsqui	4	0.8	Res.	A-1	Sp. Ind.	In ALR	L
72	Matsqui	4	1.7	Res.	A-1	Sp. Ind.	In ALR	L
74	Matsqui	4	1.0	Farm	A-1	Sp. Ind.	Proposed Marshall Rd. extension/in ALR	L
75	Matsqui	4	4.0	Drywall	A-1	Sp. Ind.	Proposed Marshall Rd. extension/in ALR	L
76	Matsqui	4	4.0	Poultry Farm	A-1	Sp. Ind.	Proposed Marshall Rd. extension/in ALR	L
77	Matsqui	4	0.9	Poultry Farm	A-1	Sp. Ind.	Proposed Marshall Rd. extension/in ALR	L

SUMMARY: Total 15 Parcels
4 - short term development potential
1 - medium term development potential
10 - long term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Abbotsford	M-2:	Industrial	N/A
Matsqui	A-1:	Small Holding Agriculture	N/A
	M-2:	Special Industrial	N/A

TABLE A-2

GAS TRANSMISSION LAND USE ANALYSIS

2. SECTION: Brown Road - Balfour Gate
FILE: 467-1000.0(13)

Most properties in this section are subdividable to 3716 m^2 (.92 ac). Community Plan indicates no higher density development is allowed.

The remaining parcels are in the Agricultural Land Reserve.

No future development potential is anticipated which would adversely affect Hydro's interests.

TABLE A-3

GAS TRANSMISSION LAND USE ANALYSIS

3. SECTION: Livingstone - Roebuck
FILE: 467-1000.0(12)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
31	Langley	5	0.5	Res.	SR-3	Industrial		L
32	Langley	5	1.7	Vacant	SR-3	Industrial		L
33	Langley	5	1.96	Farm	SR-3	Industrial		L
34	Langley	5	1.97	Res.	SR-3	Industrial		L
35	Langley	5	1.97	Vacant	SR-3	Industrial		L
36	Langley	5	1.97	Res.	SR-3	Industrial		L
37	Langley	5	0.98	Res.	SR-3	Industrial		L
38	Langley	5	0.98	Duplex	SR-3	Industrial		L
40	Langley	5	0.91	Res.	SR-3	Industrial		L
41	Langley	5	0.97	Res.	SR-3	Industrial		L
42	Langley	5	0.97	Res.	SR-3	Industrial		L
43	Langley	5	0.97	Res.	SR-3	Industrial		L
44	Langley	5	0.97	Vacant	SR-3	Industrial		L
45	Langley	5	0.97	Res.	SR-3	Industrial		L
46	Langley	5	1.94	Res.	SR-3	Industrial		L
47	Langley	5	1.46	Vacant	SR-3	Industrial		L
48	Langley	5	1.85	Res.	SR-3	Industrial		L
49	Langley	5	1.82	Res.	SR-3	Industrial		L
66	Langley	6	1.79	Res.	SR-3	Urban Res.		L
67	Langley	6	1.79	Res.	SR-3	Urban Res.		L
68	Langley	6	0.38	Vacant	SR-3	Urban Res.		L
69	Langley	6	0.38	Vacant	SR-3	Urban Res.		L
70	Langley	6	1.8	Vacant	SR-3	Urban Res.		L
71	Langley	6	2.4	Vacant	SR-3	Urban Res.		L
72	Langley	6	4.81	Vacant	SR-3	Urban Res.		L
169	Surrey	7	1.01	Res.	R-F	Urban Res.		M
218	Surrey	7	2.23	Res.	RS	Urban Res.		M
219	Surrey	7	1.95	Res.	RS	Urban Res.		M
250/1	Surrey	8	14.7	Vacant	R-F(R)	Urban Res.		S
320	Surrey	9	0.94	Res.	RS	Urban Res.		M
321	Surrey	9	0.25	Res.	RS	Urban Res.		M

SUMMARY: Total 31 Parcels
1 - short term development potential
5 - medium term development potential
25 - long term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Langley	SR-3:	Suburban Residential	3716 m^2 (0.92 acre)
Surrey	R-F:	Family Residential	660 m^2 (7104 sq ft)
	R-F(R)	Restricted Single Family Residential	660 m^2
	RS:	Suburban Residential	4047 m^2 (1 acre)

TABLE A-4

GAS TRANSMISSION LAND USE ANALYSIS

4. SECTION: Roebuck - Pattullo
FILE: 414-1000.0(12)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
32	Surrey	22	0.35	Auto Shop	R-F	Urban Res.		M
33	Surrey	22	0.6	Vacant	R-F	Urban Res.		S
34/2	Surrey	22	0.56	Vacant	R-F	Urban Res.		S
38	Surrey	22	0.91	Vacant	R-F	Urban Res.		S
39	Surrey	22	0.37	Res.	R-F	Urban Res.		M
45	Surrey	22	1.65	Res.	R-F	Urban Res.		M
90	Surrey	23	0.28	Res.	R-F	Urban Res.		M
91	Surrey	23	0.21	Res.	R-F	Urban Res.		M
115	Surrey	23	0.5	Res.	R-F	Urban Res.		M
116	Surrey	23	0.11	Res.	R-F	Urban Res.		M
125	Surrey	23	0.25	Res.	R-F	Urban Res.		M
130	Surrey	23	0.94	Res.	R-F	Urban Res.		M
131	Surrey	23	0.96	Res.	R-F	Urban Res.		M
132	Surrey	23	0.96	Res.	R-F	Urban Res.		M
134	Surrey	24	0.76	Vacant	A-1	Industrial		S
135	Surrey	24	6.0	Vacant	I-G	Industrial		S
136	Surrey	24	5.7	Vacant	A-1	Industrial		S
137	Surrey	24	3.7	Farm	A-1	Industrial		M
138	Surrey	24	2.8	Auto Shop	A-1	Industrial		M
139	Surrey	24	1.1	Res.	A-1	Industrial		M
140	Surrey	24	1.6	Res.	A-1	Industrial		M
141	Surrey	24	1.1	Res.	A-1	Industrial		M

SUMMARY: Total 22 Parcels
6 - short term development potential
16 - medium term development potential

*ZONING: Munic.	Short Form	Zone Designation	Minimum Lot Size
Surrey	R-F:	Family Residential	660 m^2 (7104 sq ft)
	A-1:	Agricultural Zone 1	20,000 m^2 (4.9 acres)
	I-G:	General Industrial	N/A

TABLE A-5

GAS TRANSMISSION LAND USE ANALYSIS

5. SECTION: Livingstone - Fort Langley
   FILE: 467-1000.0(11)

Properties in this section are either already developed (Fort Langley) or no future development is anticipated because of the ALR and Community Plan designations.

TABLE A-6

GAS TRANSMISSION LAND USE ANALYSIS

6. SECTION: Fort Langley - Nichol Gate
FILE: 467-1000.0(9)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
19	Langley	13	2.18	Res.	R-4	Urban		M
20	Langley	13	2.3	Res.	R-2	Urban		M
21	Langley	13	2.3	Substn.	R-2	Urban	B. C. Hydro property	L
48	Langley	13	2.06	Vacant	R-2	Urban		S
59	Langley	13	2.31	Vacant	R-2	Urban		S
60	Langley	13	3.0	Vacant	R-2	Urban		S
66	Langley	14	1.89	Res.	R-4	Urban		M
85	Langley	14	0.89	Res.	SR-1	Urban		M
97	Langley	15	1.97	Res.	M-1	Urban		M
98	Langley	15	1.97	Res.	M-1	Urban		M
99	Langley	15	1.0	Vacant	M-1	Urban		S
100	Langley	15	1.0	Vacant	M-1/2	Urban		S
101	Langley	15	1.7	Vacant	M-1	Urban		S
102	Langley	15	1.7	Vacant	M-1	Urban		S
103	Langley	15	2.1	Vacant	M-1	Urban		S
104	Surrey	16	1.0	Vacant	I-G	Industrial		S
105	Surrey	16	1.0	Vacant	I-G	Industrial		S
106	Surrey	16	4.5	Vacant	I-G	Industrial		S
107	Surrey	16	4.5	Vacant	I-G	Industrial		S
108	Surrey	16	0.3	Vacant	I-G	Industrial		S
109	Surrey	16	3.0	Vacant	I-G	Industrial		S
110	Surrey	16	0.66	Vacant	I-G	Industrial		S
111	Surrey	16	0.51	Vacant	I-G	Industrial		S
112	Surrey	16	3.51	Vacant	I-G	Industrial		S
113	Surrey	16	0.75	Vacant	I-G	Industrial		S
115	Surrey	17	0.43	Vacant	I-G	Industrial		S
117	Surrey	17	1.35	Vacant	I-G	Industrial		S
118	Surrey	17	0.40	Vacant	I-G	Industrial		S
119	Surrey	17	4.45	Vacant	RS	Industrial		M
120	Surrey	17	3.2	Vacant	RS	Industrial		M
121	Surrey	17	2.02	Vacant	RS	Industrial		M
122	Surrey	17	2.02	Vacant	RS	Industrial		M
123	Surrey	17	2.23	Vacant	I-G	Industrial		S
124	Surrey	17	1.42	Vacant	I-G	Industrial		S
125	Surrey	17	2.23	Res.	RS	Industrial		M
126	Surrey	17	2.02	Vacant	I-G	Industrial		S
128	Surrey	17	1.09	Farm	RS	Industrial		M
188	Surrey	18	0.48	Res.	R-F(R)	Urban Res.		M

TABLE A-6 CONT'D

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
189	Surrey	18	1.01	Res.	R-F(R)	Urban Res.		M
190	Surrey	18	1.01	Res.	R-F(R)	Urban Res.		M
191	Surrey	18	2.02	Farm	R-F(R)	Urban Res.		M
192	Surrey	18	1.52	Res.	R-F(R)	Urban Res.		M
193	Surrey	18	0.4	Res.	R-F(R)	Urban Res.		M
194	Surrey	18	0.45	Res.	R-F(R)	Urban Res.		M
195	Surrey	18	2.53	Res.	R-F(R)	Urban Res.		M
196	Surrey	18	5.86	Vacant	RS	Urban Res.		S
197	Surrey	18	2.02	Farm	RS	Urban Res.		M
198	Surrey	19	2.02	Res.	RS	Urban Res.		M
199	Surrey	19	0.65	Res.	RS	Urban Res.		M
201	Surrey	19	4.04	Res.	R-F(R)	Urban Res.		M
216	Surrey	19	0.56	Res.	RS	Urban Res.		M
217	Surrey	19	1.53	Res.	RS	Urban Res.		M
218	Surrey	19	1.45	Res.	RS	Urban Res.		M
220	Surrey	19	8.7	Res.	R-F	Urban Res.	Surrey property	M
220/1	Surrey	19	1.0	Res.	R-F	Urban Res.		M

SUMMARY: Total 55 Parcels
25 - short term development potential
29 - medium term development potential
1 - long term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Langley	R-2:	Single Family Residential	464.5 m^2
	R-4:	Single Family Residential	278.5 m^2
	SR-1:	Suburban Residential	930 m^2
	M-1:	Light Industrial	N/A
	M-2:	Service Industrial	N/A
Surrey	I-G:	General Industrial	N/A
	RS:	Suburban Residential	4047 m^2
	R-F:	Family Residential	660 m^2
	R-F(R):	Restricted Single Family Residential	660 m^2

TABLE A-7

GAS TRANSMISSION LAND USE ANALYSIS

7. SECTION: Nichol - Roebuck
FILE: 449-1000.0(2)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
2	Surrey	20	7.9	Res.	RS	Urban Res.		M
24	Surrey	21	1.0	Vacant	RS	Urban Res.	B. C. Hydro property	L
32	Surrey	21	0.8	Vacant	RS	Urban Res.	B. C. Hydro property	L
33	Surrey	21	0.8	Vacant	RS	Urban Res.	B. C. Hydro property	L

SUMMARY: Total 4 Parcels
1 - medium term development potential
3 - long term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Surrey	RS:	Suburban Residential	4047 m^2 (1 acre)

TABLE A-8

GAS TRANSMISSION LAND USE ANALYSIS

8. SECTION: Roebuck - Tilbury
FILE: 414-1000.0(9)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
22	Delta	10	2.18	Vacant	I-3	Urban	Delsom Estates	S
23	Delta	10	3.65	Farm	I-3	Urban	Delsom Estates	S
24	Delta	10	3.69	Farm	I-3	Urban	Delsom Estates	S
25	Delta	10	3.71	Farm	I-3	Urban	Delsom Estates	S
26	Delta	10	2.97	Farm	I-3	Urban	Delsom Estates	S
27	Delta	10	3.76	Vacant	I-3	Urban	Delsom Estates	S
28	Delta	10	3.78	Vacant	I-3	Urban	Delsom Estates	S
29	Delta	10	3.81	Farm	I-3	Urban	Delsom Estates	S
30	Delta	10	2.2	Farm	I-3	Urban	Delsom Estates	S
31	Delta	10	3.3	Farm	I-3	Urban	Delsom Estates	S
32	Delta	10	8.09	Farm	RS-3	Urban	Delsom Estates	S
34	Delta	10	0.66	Res.	RS-1	Urban		M

SUMMARY: Total 12 Parcels
11 - short term development potential
1 - medium term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Delta	RS-1:	Single Family Residential	0.4 ha
	RS-3:	Single Family Residential	2.0 ha
	I-3:	Extraction Industrial	N/A

TABLE A-9

GAS TRANSMISSION LAND USE ANALYSIS

9. SECTION: Brooke Road - Kennedy Road
FILE: 412-1000.0(22)

Properties in this section are developed.

TABLE A-10

GAS TRANSMISSION LAND USE ANALYSIS

10. SECTION: Tilbury - Fraser Gate
FILE: 412-1000.0(18)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
3/1	Delta	11	7.9	Metal Fab/ Vacant	I-2	Industrial		S
3/2	Delta	11	14.2	Vacant	I-2	Industrial		S

SUMMARY: Total 2 Parcels
2 - short term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Delta	I-2:	Heavy Industrial	N/A

TABLE A-11

GAS TRANSMISSION LAND USE ANALYSIS

11. SECTION: Tilbury - Benson
FILE: 412-1000.0(19)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
2	Delta	11	0.26	Vacant	CD-42	Industrial		S
3	Delta	11	0.4	Vacant	CD-42	Industrial	Delta property	S
4	Delta	11	1.62	Vacant	CD-42	Industrial	BCDC property	S

SUMMARY: Total 3 Parcels
3 - short term development potential

*ZONING: Munic.	Short Form	Zone Designation	Minimum Lot Size
Delta	CD-42:	Comprehensive Development	N/A

TABLE A-12

GAS TRANSMISSION LAND USE ANALYSIS

12. SECTION: Tilbury - LNG
FILE: 412-1000.0(21)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
2	Delta	11	0.16	Vacant	I-2	Industrial	Covered with fill	S
3	Delta	11	0.20	Vacant	I-2	Industrial	Covered with fill	S
4	Delta	11	4.10	Vacant	I-2	Industrial	Covered with fill	S
5/1	Delta	12	3.57	Farm	I-2	Industrial		M
6	Delta	12	0.93	Farm	I-2	Industrial		M
7	Delta	12	17.98	Vacant	I-2	Industrial		S
9	Delta	12	5.59	Vacant	I-2	Industrial	B. C. Hydro property	L
10/11	Delta	12	6.35	Vacant	I-2	Industrial	B. C. Hydro property	L

SUMMARY: Total 8 Parcels
4 - short term development potential
2 - medium term development potential
2 - long term development potential

*ZONING: Munic.	Short Form	Zone Designation	Minimum Lot Size
Delta	I-2:	Heavy Industrial	N/A

TABLE A-13

GAS TRANSMISSION LAND USE ANALYSIS

13. SECTION: Nichol - Port Mann
FILE: 449-1000.0(1)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
8	Surrey	20	1.9	Vacant	RS	Urban Res.	B. C. Hydro property	L
9	Surrey	25	1.2	Vacant	R-F	Mult. Res.	B. C. Hydro property	L
10	Surrey	25	0.7	Vacant	R-F	Mult. Res.	B. C. Hydro property	L
12	Surrey	25	0.98	Motel	R-F	Mult. Res.		M
13	Surrey	25	1.17	Res.	R-F	Mult. Res.		M
25	Surrey	25	1.1	Vacant	R-F	Mult. Res.	B. C. Hydro property	L
26	Surrey	25	0.6	Res.	R-F	Mult. Res.		M
36	Surrey	25	1.9	Res.	R-F C-C	Mult. Res.		M
77	Surrey	26	0.94	Res.	R-F(R)	Urban Res.		M
78	Surrey	26	0.96	Res.	R-F	Urban Res.		M
79	Surrey	26	0.44	Res.	R-F	Urban Res.		M
80	Surrey	26	0.44	Res.	R-F	Urban Res.		M
94	Surrey	26	0.37	Res.	R-F	Urban Res.		M
104	Surrey	27	0.9	Vacant	R-F	Urban Res.		S

SUMMARY: Total 14 Parcels
1 - short term development potential
9 - medium term development potential
4 - long term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Surrey	RS:	Suburban Residential	4047 m^2
	R-F:	Family Residential	660 m^2
	R-F(R):	Restricted Single Family Residential	660 m^2
	C-C:	Cove Commercial	N/A

TABLE A-14

GAS TRANSMISSION LAND USE ANALYSIS

14. SECTION: Port Mann - Coquitlam Gate
FILE: 424-1000.0(3)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
7	Coquitlam	35	3.49	Parking	M-2	Industrial		S
8	Coquitlam	35	1.74	Parking	M-2	Industrial		S
10	Coquitlam	35	1.62	Parking	M-2	Industrial		S
11	Coquitlam	35	0.91	Parking	M-2	Industrial		S
12	Coquitlam	35	1.91	Parking	M-1	Industrial		S
14	Coquitlam	35	2.86	Parking	M-1	Industrial		S
15	Coquitlam	35	1.69	Parking	M-1	Industrial		S
16	Coquitlam	35	14.73	Vacant	M-1	Industrial		S
19	Coquitlam	36	3.61	Vacant	RS-2	Industrial		S
19-1	Coquitlam	36	1.86	Vacant	RS-2	Industrial		S
20	Coquitlam	36	4.6	Vacant	RS-2	Industrial		S
22	Coquitlam	36	0.98	Vacant	RS-2	Industrial		S
25	Coquitlam	n/a*	0.45	Res.	RS-1	Residential		M

SUMMARY: Total 13 Parcels
12 - short term development potential
1 - medium term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Coquitlam	RS-1:	Single Family Residential	650 m^2
	RS-2:	Suburban Residential	4050 m^2
	M-1:	General Industrial	N/A
	M-2:	Service Industrial	N/A

* n/a - mapsheet not available

TABLE A-15

GAS TRANSMISSION LAND USE ANALYSIS

15. SECTION: Coquitlam Gate - Burrard Thermal
FILE: 413-1000.0(5)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
7	Coquitlam	N/A*	3.95	Vacant	RS-1	Residential	B. C. Hydro property for sale	S
26	Port Moody	37	41.44	Vacant	A-1	Residential	No services	L
27	Port Moody	37	29.44	Vacant	A-1	Residential	No services	L
30	Port Moody	37	62.2	Vacant	A-1	Residential	No services	L

SUMMARY: Total 4 Parcels
1 - short term development potential
3 - long term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Coquitlam	RS-1:	Single Family Residential	650 m^2
Port Moody	A-1:	Holding zone for future development	8 ha

* Map not available.

TABLE A-16
GAS TRANSMISSION LAND USE ANALYSIS

16. SECTION: Fort Langley - Haney
FILE: 467-1000.0(10)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
17	Langley	N/S*	40.0	Vacant	A-3	ALR	McMillan Island Indian Reserve	L
23	Maple Ridge	28	0.75	Vacant	M-2	Industrial		S
26	Maple Ridge	29	5.5	Vacant	M-2	Industrial		S
27	Maple Ridge	29	4.0	Vacant	M-2	Industrial		S
40	Maple Ridge	30	0.3	Res.	RS-3	Compact Residential		M
41	Maple Ridge	30	0.16	Res.	RS-3	Compact Residential		M
42	Maple Ridge	30	0.17	Res.	RS-3	Compact Residential		M
43	Maple Ridge	30	37.02	Vacant	RS-3	Compact Res./School		M
45	Maple Ridge	30	0.17	Res.	RS-3	Garden Apt.		M
46	Maple Ridge	30	0.17	Res.	RS-1	Garden Apt.		M
47	Maple Ridge	30	0.21	Res.	RS-1	Garden Apt.		M
48	Maple Ridge	30	0.35	Res.	RS-1	Garden Apt.		M
49	Maple Ridge	30	0.28	Res.	RS-1	Garden Apt.		M
50	Maple Ridge	30	0.33	Res.	RS-1	Garden Apt.		M
51	Maple Ridge	30	0.33	Res.	RS-1	Garden Apt.		M
52	Maple Ridge	30	0.8	Res.	RS-1	Garden Apt.		M
53	Maple Ridge	30	0.38	Res.	RS-1	Garden Apt.		M
54	Maple Ridge	30	0.41	Vacant	RS-1	Service Commercial		S
55	Maple Ridge	30	0.46	Vacant	CS-1	Service Commercial		S
59	Maple Ridge	30	0.12	Vacant	CS-1	Service Commercial		S
62/1	Maple Ridge	31	0.20	Vacant	CS-1	Service Commercial		S

SUMMARY: Total 21 Parcels
7 - short term development potential
13 - medium development potential
1 - long term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Langley	A-3:	Agriculture	N/A
Maple Ridge	RS-1:	Urban Residential	668 m^2
	RS-3:	Rural Residential	0.8 ha
	CS-1:	Service Commercial	N/A
	M-2:	General Industrial	N/A

* Map not available.

TABLE A-17

GAS TRANSMISSION LAND USE ANALYSIS

17. SECTION: Haney - Coquitlam
FILE: 468-1000.0(5)

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
27	Maple Ridge	31	1.9	Res.	RS-1	Apt. Res.		M
29	Maple Ridge	32	0.34	Res.	RS-1	Apt. Res.		M
30	Maple Ridge	32	1.75	Res.	RS-1	Compact Res. 25/ha		M
31	Maple Ridge	32	0.97	Farm	RS-1	Compact Res. 25/ha		M
32	Maple Ridge	32	0.99	Farm	RS-1	Compact Res. 25/ha		M
36	Maple Ridge	32	0.8	Res.	RS-1	Res. 15/ha		M
48	Maple Ridge	32	0.32	Vacant	RS-1	Res. 15/ha		S
49	Maple Ridge	32	0.24	Res.	RS-1	Res. 15/ha		M
73	Maple Ridge	32	1.6	Res.	RS-1	Res. 15/ha		M
80	Maple Ridge	32	0.24	Res.	RS-1	Compact Res. 25/ha		M
81	Maple Ridge	32	0.38	Res.	RS-1	Compact Res. 25/ha		M
82	Maple Ridge	32	1.54	Res.	RM-1	Compact Res. 25/ha		M
93	Maple Ridge	33	0.18	Res.	RS-1	Res. 15/ha		M
101	Maple Ridge	33	0.30	Res.	RS-1	Res. 15/ha		M
115	Maple Ridge	33	0.22	Res.	RS-1	Res. 15/ha		M
118	Maple Ridge	33	1.9	Res.	RS-3	Res. 15/ha		M
119	Maple Ridge	33	2.0	Res.	RS-3	Res. 15/ha		M
120	Maple Ridge	33	0.39	Res.	RS-1	Res. 18/ha		M
121	Maple Ridge	33	0.64	Res.	RS-3	Res. 18/ha		M
122	Maple Ridge	33	3.66	Res.	RS-3	Res. 18/ha		M
123	Maple Ridge	33	2.2	Res.	RS-3	Res. 18/ha		M
124	Maple Ridge	34	1.6	Res.	RS-3	Res. 18/ha		M
125	Maple Ridge	34	0.43	Res.	RS-1	Res. 12/ha		M
127	Maple Ridge	34	0.24	Res.	RS-1	Res. 12/ha		M
128	Maple Ridge	34	0.21	Res.	RS-1	Res. 12/ha		M
129	Maple Ridge	34	0.98	Res.	RS-3	Res. 18/ha		M
130	Maple Ridge	34	2.65	Vacant	RS-3/ RS-1	Res. 18/ha		S

TABLE A-17 CONT'D

PCL. NO.	MUNIC.	MAP NO.	SIZE (ha)	ACTUAL USE	ZONING*	OFFICIAL COMMUNITY PLAN	COMMENTS	TIME HORIZON
132	Maple Ridge	34	0.37	Res.	RS-1	Res. 18/ha		M
136	Maple Ridge	34	0.84	Res.	RS-1	Res. 18/ha		M
139	Maple Ridge	34	2.6	Vacant	RS-1	Res. 18/ha		S
140	Maple Ridge	34	0.6	Res.	RS-1	Res. 18/ha		M
141	Maple Ridge	34	1.3	Res.	RS-1	Res. 18/ha	Applied to subdivide	S
154	Pitt Meadows	N/S	0.72	Vacant	M-2	Industrial		S
164	Pt. Coq.	N/S	3.3	Vacant	M-2	Industrial		S

SUMMARY: Total 34 Parcels
6 - short term development potential
28 - medium term development potential

*ZONING:

Munic.	Short Form	Zone Designation	Minimum Lot Size
Maple Ridge	RS-1:	Urban Residential	668 m^2
	RS-3:	Rural Residential	0.8 ha
	RM-1:	Townhouse Residential	N/A
Pitt Meadows	M-2:	General Industrial	N/A
Port Coquitlam	M-2:	Heavy Industrial	N/A

APPENDIX B

List of Government
Officials Contacted For
This Study

APPENDIX B

Government Officials Contacted for Study

Organization	Name	Position
Abbotsford	K. Davies	Director of Planning
Coquitlam	D. Tremblay	Planning Assistant
Delta	J. Richmond	Planner
GVRD	K. Cameron	Senior Planner
	J. Gilmore	Planning Consultant
Langley	B. Ulrich	Planner
Maple Ridge	S. Dyer	Planner
Matsqui	A. Kopistinsky	Planner
	C. Gilbert	Planning Technician
Ministry of Highways	D. Mooney	Planning Supervisor
Pitt Meadows	A. Haldenby	Planning Technician
Port Coquitlam	B. Brown	Director of Planning
Port Moody	T. Hurst	Deputy Approving Officer
Richmond	B. Jackson	Planner
	M. Skerry	Social Planner
Surrey	I. Policzer	Long Range Planner
Vancouver	D. Whiting	Planner
	R. Scobie	Planner